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REPORT

ON THE

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MIASMAL FEVERS OF THE WEST,

TO THE

MEDICAL SOCIETY

OF THE

COUNTY OF WASHTENAW,

ANN ARBOR.

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PUBLISHED BY THE SOCIETY.

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# THE HISTORY OF THE

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## CORRESPONDENCE.

At a meeting of the Medical Society of the county of Washtenaw, June, 1839—

On motion of Dr. Cowles, the thanks of the society were presented to the chairman of the committee appointed to investigate the autumnal fevers of 1838, for his able and scientific report.

On motion of Dr. Taylor, the report was ordered to be published by the Medical Society of the county of Washtenaw.

ANN ARBOR, June, 1839.

GENTLEMEN,

The report having been accepted, has become the property of the society; and your right to dispose of it as seems to you proper, is acknowledged. The compliment you have so kindly bestowed upon it, and your order to publish it are too flattering to be passed over, without demanding in return the most devout thanks for the honor you thus shown me. Some further claims will will here be made with confidence upon your indulgence and generosity; viz: first, That you will excuse the desultory manner in which some of this report is written, owing to its being done with frequent interruptions, and in such brief moments of leisure as the practising physician can have afforded him; and the determination to be brief, has in some instances detracted from the force and perspicuity of the sentiment. That as much matter which was immediately useful, might be condensed in as small a compass as possible we have confined ourselves principally to the *diagnostic symptoms and treatment* of the different forms of *miasmal fever*. Three or four hundred pages should be allotted to a work of this kind, in treating of the laws of malaria, its physical and moral effects, and the etiology, the pathology, the symptoms and treatment, of this family of diseases, and the modifications produced by its influence on other affections, occurring in the malarious districts of the west.

It has long been my intention to attempt something of this kind, and if no abler pen engages soon, in this difficult undertaking, I shall attempt it the first favorable opportunity. The space which such a work offers, will leave room to carry out more in detail, the classification here adopted; and will give a chance of adducing authority, facts and arguments to establish any new views in the etiology, pathology, therapeutics, etc., pertaining to these diseases. The object of making this announcement, is, to take this occasion of requesting all practitioners of the west, in whose hands this may fall, to communicate to me, as soon as convenient, such views upon any controverted point, in relation to these diseases, as experience and observation has confirmed them in. Any thing new under the many heads proposed to be discussed, will be deemed of great value; and, also, whatever goes to establish or overthrow any view which is now deemed doubtful. In making this request, it is confidently expected, the appeal will not be made in vain, so far at least, as the members of our own society are concerned. Not a few of you have

spent many years in the prime of life, enduring all the privations incident to new settlements, in a laudable devotion to the interests of the afflicted; and it is not expecting too much, if we express an assurance that you can contribute something, from your ample experience, for the benefit of the profession at large.

A valuable hint from any source, will be duly appreciated and acknowledged in the course of the work; and no pains will be spared to make it in every way as useful to the profession as possible.

S. DENTON.





REPORT  
ON THE  
MIASMAL FEVERS OF THE WEST.

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CHAPTER I.

*To the members of the Medical Society of the  
county of Washtenaw:*

GENTLEMEN,—

YOUR committee to whom was referred the subject of the autumnal fevers of 1838, have had the same under consideration, and beg leave to

REPORT :

THAT if greater mortality attended the prevalence of the endemic miasmal fever of 1838 in some sections of the county than others, it was probably owing to its greater prevalence and to a more powerful influence of the endemic cause. But your committee are bound to acknowledge that too little attention is bestowed by practitioners in general on the different pathological condition of the system that may exist in different seasons, and in the same season in different individuals, as a cause or consequence of miasmal fevers. We are not for the present going to espouse the doctrine held by a very large and respectable class of our profession, viz: that all fevers are symptomatic of some organic lesion; but thus far we will say, in our opinion fevers are much oftener complicated with some structural derangement than many suppose, and the great danger in all cases of *miasmal fever*, consists in the liability of some viscus or tissue becoming implicated in the course of

the disease. Some seasons, or in some places, the fever is prone to fall with great violence on one organ, and in others upon another; and some individuals in the same season and vicinity have one viscus involved, and another patient another. When a different viscus or tissue is implicated, however similar the fever may appear in other respects, it is essentially a different disease, and requires a different mode of treatment.— From these considerations your committee have come to the conclusion that they could best subserve your interests by laying before you a brief synoptic treatise of the *miasmatic fevers* of this country, classified according to the different *grades* under which they appear, and by laying down in as concise a manner as possible the symptoms denoting the different organic lesion, and the modifications of treatment adapted to each.

## CHAPTER II.

## GENERAL REMARKS ON CLASSIFICATION

MIASMATIC fevers include one great family or class of febrile diseases almost infinitely diversified in their symptoms, and running through a long scale of gradations from the nearly harmless *tertian ague* or *quartan*, to a fever of the most alarming violence, overwhelming the powers of life in a few hours. As each of these intermediate grades demands an appropriate modification of treatment, it would seem as if we had an extended field for study and experience before us, to determine the grade of fever in each particular instance and prescribe means adequate to a cure. But the field is still more enlarged when we add to the above, that every grade of *miasmatic fever* from the mildest to the most malignant and fatal, is extremely liable to *produce* or become somehow *complicated with* an inflammation or congestion of some tissue or viscus of the animal economy.

The importance of the organ implicated, and the degree of inflammation or congestion with which the part is seized, is of the utmost importance in a practical point of view. And this is one of the most difficult parts of our profession too, owing to the obscure and very equivocal signs which denote the consecutive local malady, though it be in a vital part, and disorganizing in its violence.

The separate heads or different varieties under which *miasmatic fevers* will now be considered, are founded upon the above premises, viz: first, that miasmal fevers are of different grades which is the foundation of the first division; and second, that each separate grade is liable to be complicated with organic lesions or congestions.

## CHAPTER III.

## CLASSIFICATION.

## FIRST,

1. Simple Miasmal fever of the Synochal grade.
2.   "      do.       "      "      Synochus do.
3.   "      do.       "      "      Typhoid do.

## SECOND,

- |                     |               |
|---------------------|---------------|
| 1. Gastro Enteritic | Miasmal fever |
| 2. Hepatic,         | do.           |
| 3. Splenic,         | do.           |
| 4. Pneumonic,       | do.           |
| 5. Cephalitic.      | do.           |

## REMARKS.

THIS classification of *miasmatic fever*, though new, is not introduced for the purpose of laying the foundation of any novel theory of the etiology or treatment of fevers. Perspicuity is the object of this arrangement. It is for the purpose of rendering methodical what is now in a perfect jumble.—These fevers appear under the greatest diversity of grades, from the most highly *sthenic* or *synochal* to the lowest *asthenic* or *typhoid*, and each grade is obnoxious to complications of phlogosis or congestions, presenting the most opposite aspects and indications of cure; and yet our books treat of this subject under one general head, without making these most palpable distinctions. Hence, one set of physicians insist that these fevers are always of the atonic, and others of the entonic grade. Some insist that they are always idiopathic, and others that they are symptomatic of some primary local affection. One set dogmatically insist on one set of remedies, and the other upon another: one says that bleeding and the anti-phlogistic regimen will cure all, and the other that it will



kill all. Much of this discrepancy arises from being wedded to different theories, but more from the fact that one author has written from the impressions received during the prevalence of one endemic or epidemic during one season, and in one locality; and another has treated the disease under different circumstances, and each supposing that his limited experience will apply to all seasons and locations.

A well arranged and methodical treatise on the fevers arising from *malaria*, as they appear in the far west, is a *desideratum*, and though perhaps a better classification may hereafter be hit upon than the above, yet no arrangement extant is so well calculated to systematize the practitioner's views relating to the true character of the disease, and the method of treatment at the bed side of the patient, as this one; and if a book were to be written, as voluminous as the importance of the subject demands, all that is wanting is to amplify and carry out into all of its details the present synopsis. Extreme brevity however must be observed in the present instance; and that as many practical facts may be as much condensed as possible, we have stated little else than the *symptoms* and *treatment* in each grade and species, and all unnecessary argument and explanation is carefully avoided.

1. The first part of the paper is devoted to a general  
discussion of the problem of the existence of  
solutions of the system of equations  
$$\frac{dx}{dt} = P(x, y, z), \quad \frac{dy}{dt} = Q(x, y, z), \quad \frac{dz}{dt} = R(x, y, z),$$
  
where  $P, Q, R$  are continuous functions of  $x, y, z$  in a  
certain region of space. It is shown that if the  
functions  $P, Q, R$  are continuous and if the  
initial conditions are given at a point where the  
determinant of the matrix of the coefficients of the  
linearized system is not zero, then there exists a  
unique solution of the system in a neighborhood of  
the initial point. This result is known as the  
theorem of existence and uniqueness of solutions.  
The second part of the paper is devoted to a  
discussion of the problem of the stability of  
solutions of the system of equations. It is shown  
that if the functions  $P, Q, R$  are continuous and  
if the initial conditions are given at a point where  
the determinant of the matrix of the coefficients of  
the linearized system is not zero, then the solution  
is stable in the sense of Liapunov. This result is  
known as the theorem of stability of solutions.

## PART FIRST.

### CHAPTER I.

#### *General remarks on the different types of fevers.*

##### SIMPLE MIASMAL FEVER OF THE SYNOCHAL GRADE.

*Simple miasmatic fever* of whatever grade; that is, miasmatic fever unaccompanied by local disease, has one remarkable diagnostic symptom that distinguishes it from the fevers arising from any other cause; and that is, its obvious and uniform intermissions or remissions. When these intermissions are shorter and less distinct and the cold stage less severe at the accession of each paroxysm, it is usually denominated a *remittent fever*. When the intermissions are longer and perfect, and the paroxysm ushered in by a long or severe chill, it is called an *intermittent fever* or *fever and ague*. Any thing which aggravates the last, has a tendency to convert it into a remittent or a continued fever; and whatever mitigates the other, converts it into an intermittent fever, or effects a cure. If an idiopathic inflammation occurs in one who has been long exposed to the influence of malaria, the attendant fever is likely to shew a marked tendency to intermit.

These fevers are said to be *quotidian*, *tertian* or *quartan* according as the paroxysm recurs on the second, third or fourth days; always counting the day on which the last paroxysm occurred as one day. The *tertian* type is very likely to become a double tertian. It usually becomes double after the patient has had two, or three, or more paroxysms every other day, which usually come on in the A. M. Then that which should be the well day is interrupted toward night by a slight paroxysm, which does not wholly leave the patient

until nearly morning, or within a few hours of the morning paroxysm which is much the harder of the two. This then leaves the patient in the P. M., in what is called the intermittent or fever and ague, and leaves a long intermission of about eighteen or twenty-four hours duration, until the next evening paroxysm. The intermission from the evening to the morning exacerbation, is only of about four or six hours duration, and from the morning to the evening from eighteen to twenty-four hours. What by way of distinction is usually called the remitting fever, is generally marked by quotidian or double tertian exacerbations. In some instances in the remitting fever we have double quotidian exacerbations and, as in the double tertian, every alternate paroxysm is generally much the strongest.

#### SYMPTOMS.

THE *synochal grade* of miasmatic fever, like those of either of the other grades, commences with a cold stage after a few hours of languor, drowsiness, anxiety, pain in the head, loins, &c.

The chills and rigors alternate with flashes of heat, until the heat finally predominates. The cold stage in this is shorter, and is usually ushered in after fewer premonitory symptoms than either of the other grades. The hot stage simulates the *synocha* or true inflammatory fever. The pulse is full, or hard and strong, the skin intensely hot and flushed, especially about the head and face, with increased sensibility to light and sound; intense thirsting for cold water and severe throbbing pains in the head and loins. The tongue is covered with a white fur, the bowels generally costive, urine scanty and very high colored, and the blood, when drawn, presents the inflammatory buff.

Such are a few of the most prominent symptoms of this grade of *miasmatic fever*, and care has been taken to select those symptoms which most distinguish it from the other

grades. It might be, and often is, at first mistaken for simple inflammatory fever; but at the end of ten or twelve hours, if it be an intermittent, a profuse perspiration comes on, which, after an hour or two's continuance terminates in a perfect intermission. This intermission lasts until the next day, about one or two hours later than the accession the day previous, if it be a *quotidian*, but if a *tertian*, it passes over one entire day, and recurs again on the third day about one or two hours earlier than on the day of the previous paroxysm. If it be a remittent, the hot stage continues until toward the next morning (if the exacerbations be *quotidian*,) and if *tertian*, until the next morning but one, before much abatement of the fever; when a perspiration and a mitigation of all the patient's sufferings ensue. This respite is destined to be of but few hours duration, when another paroxysm comes on, ushered in by a cold stage less severe usually than the first, and much less in intensity and duration than generally characterizes the cold stage of an intermittent. The pain in the back and lower extremities is generally more severe than in simple inflammatory fever, so that it almost appears like a rheumatism of the lower limbs.

#### TREATMENT.

Whatever may be thought of blood-letting in *simple miasmatic fever* in either of the other grades, no physician in his senses, should hesitate a moment to use the lancet *early* and *decisively* in this grade of fever. If an opportunity offers, bleeding should be had recourse to in the cold stage in preference to the hot stage, and the blood should be suffered to flow until the chills and rigors entirely cease, and until a decisive impression is made on the system. It should then be stopped and the physician should wait to see if a full reaction comes immediately on before he quits his patient, for if chills and rigors should again commence, though slightly, the arm

should again be corded, and as much more blood taken as is necessary to put an entire stop to the chills.

If an opportunity does not offer to bleed in the cold stage, blood may be drawn in the hot stage, but should not in general be resorted to in the sweating stage or during the apyrexia. In either case no reference should be had to the quantity drawn in this grade of fever, but a decisive impression must be made amounting to faintness, if remittent, which sometimes takes twenty ounces, and sometimes but five or six.

A second bleeding must frequently be had recourse to in this grade of fever, and if it be practised, in order that the full benefit of it may be had with as little loss of blood as possible, it should be repeated within a few hours of the first, and should be carried to the same extent with regard to the impression to be produced as mentioned above. If the second bleeding be deferred until twenty four hours or more; from two to four times the quantity will be necessary that would have been if resorted to in a few hours from the first blood-letting.

If from neglect in sending for a physician, or from unskilful practice, blood-letting has been deferred for several days, it frequently becomes a difficult matter to decide upon the propriety of resorting to it, as also the extent to which it should be carried; for be it known, the directions contained in the last paragraph apply exclusively to the stage of excitement, including the first five or six days in cases of ordinary violence, though this stage may be much shorter or longer in duration, as the fever is more violent and rapid; or milder and slower in its progress. If several days have elapsed before we see the patient, and we learn from the history of the case that it has been a period characterised by a high state of febrile excitement, and the proper remedies have not been prescribed, we should be very suspicious that some organ has become involved ere this. A careful examination must be im-



mediately instituted ; the head, the chest and the abdomen, must each be submitted to the most rigid scrutiny, and if any organ is found implicated, as evidenced by the symptoms hereafter to be noticed under the proper head, the treatment must be according to the suggestions then laid down ; but if no evidences of a local disease are to be found, then the answers to such inquiries as the following must guide us. Was the malady slow in comparison to the grade of the fever in running through its forming stage ? Had it evidently reached its acme, and is it now in the declining stage ? If clearly it is in a declining stage, depletion should not be used ; but if not, it as certainly should, without regard to the length of time which has elapsed since the commencement of the fever.

Where much doubt exists whether the declining stage has already commenced, it is better in this grade of fever to try the effect of one blood-letting. It will be the safer course ; but in either of the other grades if doubt exists, it had better be omitted.

Having carried blood-letting to a sufficient extent, it will be very uncommon for the bowels to resist the operation of cathartic doses of the ordinary size. A dose of cremor tartar and jalap (preceded by eight or ten gr. calomel, or not, as may be thought proper) should be given.

In all cases, especially on exhibiting the first dose, an enema is better to be given first ; but if the stomach be irritable, so as to endanger the rejection of the cathartic dose, the bowels should always be first thoroughly moved by one or more injections.

For this purpose you may mix twenty grs. of jalap with a little molasses, and dilute it with a sufficient quantity of warm water or thin gruel, to fill a large syringe, or you may use senna tea with epsom salts or common salt. For the remainder of the stage of excitement, the bowels should be freely opened by three or four motions per day, procured by means

of some gentle cathartic, as a few grains of jalap or cremor tartar, seidlitz powders, epsom salts with senna and manna or one drachm carb. of magnesia, and one oz. castor oil intimately mixed in a mortar, with some agreeable syrup, and given in divided doses, and, if convenient, some lemon juice and sugar may be added. Any dose of this kind may be preceded once in a day or two by five or six grs. of calomel, and the lower part of the bowels should also be evacuated every day or two by enemata. The great object should be to produce full catharsis without irritating the stomach and bowels as is too often the case. There is no class of medicines more necessary and none more abused in this disease, than cathartics.

Many of the worst complications of this disease, with gastric and enteric irritation and inflammation, are produced by the improper selection and injudicious management of cathartics. Antimonial emetics and emeto-cathartics are very little used now, by those who entertain a proper horror of exciting an inflammation of the mucous membrane of the stomach and bowels; for this tissue, under the best management, is extremely liable to become implicated, and when it does it gives one of the worst features to this disease. Cathartics should be given during the day, that an opportunity may be afforded at night for repose, aided by a Dover's powder. *During this stage of excitement* the refrigerant diaphoretics, such as nitre, antimonials, muriate of ammonia, saline effervescing mixtures &c., may be given. The drinks may be cold water acidulated with lemon, currant jelly, or tamarinds. The patient may take milk and water, buttermilk and water, buttermilk pop, water gruel, barley water, rice water &c.; the three last, may also be acidulated and sweetened so as to be palatable. No nourishment should be given but the drinks above mentioned, during the stage of excitement. When the fever has passed its acme, or has entered on the stage of decline, the bowels need not be moved so often; the refrigerant diaphoretics may



be omitted, or given less frequently; and the patient may be allowed boiled rice, toast and weak tea, and finally veal tea. Remittents, in their declining stage, often assume an intermittent character; when they should be treated as if they were originally intermittent, and, as shall be hereafter stated.— But if, as is generally the case in this grade of fever, the declining stage terminates gradually in convalescence, nothing more need be done, but to allow an increase of more substantial food, and gentle exercise in the open air; tonics not being required or of any use. When a perspiration commences at any time during the fever, bland tepid drinks should be freely administered, and the perspiration encouraged, but more especially in the stage of excitement of a remittent. But it frequently happens that in the stage of decline, the sweating is too profuse, in which case it would be improper to encourage it.

It should be remarked here, as a peculiarity in the fevers of the country, that sweating is much more common during the continuance of the fever, and without indicating any very favorable change, than where most of us have been in the habit of practising in other countries. Perhaps half of all the fevers we witness here, not excepting the acute phlegmasæ, are characterized by more or less sweating during the whole continuance of the fever, and even before it has reached its acme or sub-crisis. The inexperienced are often deceived by these sweats, and pronounce the fever nearly at an end or cured, when it has yet to run a protracted and may be a dangerous course. A sweat of this kind is not critical, and may be known very soon by its not being attended with a corresponding amendment of all the other symptoms; in which case no pains are necessary to encourage it, but on the other hand if it be critical, it should be promoted.

If a remittent, instead of terminating in convalescence, runs into a distinct intermittent, or fever and ague, or, if the disease is originally of this form, it will become necessary to prescribe some additional directions.

It must be kept in mind, that the directions about to be given apply to intermittents occurring under this particular grade, viz: *Simple miasmatic fever of the synochal grade*. Though these directions will apply in the main to intermittents of all grades and complications, the variations in the treatment of each being noticed under its respective head.

If the fever be originally a distinct intermittent of the synochal grade, at least one copious bleeding and a liberal exhibition of cathartics, should be premised; if, on doing thus much, the patient feels well during the intermissions, free from headache and pain in the back and limbs, skin, tongue and pulse normal, and absence of thirst; measures may be adopted to intercept the paroxysms. But if the appearances are not as above intimated, quinine or any other remedy to break up the paroxysms must be delayed, and the antiphlogistic treatment further persevered in. It is in *this grade* of fever that these precautions are particularly insisted on. It is not indispensable, but it is better, to give our cathartic doses during the intermission, and just a sufficient time previously to the anticipated paroxysm, to have the operation commence about the time of its accession. One very respectable writer avers, that equal parts of calomel, aloes and rhubarb, given in this way, will effect a cure by the fifth or seventh paroxysm and sometimes sooner, with much less liability to a relapse, than by giving the barks or arsenic.

There is much respectable testimony in favor of always deferring the quinine, &c., until the fifth or seventh exacerbation; when, it is said, the fever may be stopped with much less risk of a relapse. If quinine or any of the other medicines, as barks, arsenic &c., be given without reference to the above regulations, you may, it is true, in most instances, break up the paroxysm, but the convalescence will be slow, and a relapse almost certain, within one or two weeks; and if this inconsiderate mode of breaking up the fever be persisted in, some structural lesion will generally follow. But a still more

serious consequence of the too early use of these medicines is apt to follow, which is, that it converts it into a remittent, or continued fever.

This is by no means an uncommon occurrence, and they frequently turn out to be obstinate and protracted cases; manifesting in many instances before their termination, signs of local inflammation, accompanied with a fever of the typhoid character. When it has been once determined to stop the intermittent, all experience will give the preference to quinine, over any other of the scores of medicines which have been recommended. It is almost an infallible medicine in this disease; and notwithstanding popular abuse, it is one of the most harmless articles in the *materia-medica*. It is doubtful, if it ever fails to cure, that the failure is not attributable to the existence of some organic derangement.

From ten to fifteen grs. are always sufficient; less than ten will seldom answer, and more than fifteen are never necessary. Here, one exception should be made; where opium mixed with camphor &c., has been given for the purpose of intercepting or mitigating the previous paroxysm, and the quinine is given during the succeeding intermission; in which case, it almost always fails. It should be given one gr. per hour, or two grs. every two hours; commencing long enough previously to the chill, to give the quantity intended. In double tertians, the long intermission should be preferred. Where a relapse is to be apprehended, or where one is habitually subject to relapses of fever and ague, the following prescription should be given in about ten days after the last day of fever:

12 grs. Quinine,  
12 " Rheubarb,  
8 " Aloes.

Divide into twelve pills. Take one four times per day.— At the end of about ten or fourteen days, the same quantity should be again repeated; or, it may be taken sooner, if the

patient has been much exposed to any exciting cause, or if he feels any of the premonitory symptoms of the ague. And so this prescription should be repeated during the months that the ague prevails, and until all liability to a relapse, or the susceptibility to the influence of the *malaria*, is overcome.— In this way business-men, whose time and health are of great importance, may continue to reside in malarious districts and enjoy an immunity from attacks of the ague.

Quinine had better be combined in general, with small quantities of cathartic and deobstruent medicine. The unpleasant effect which it has on the head of corpulent persons and children may be thus avoided.

Arsenic is the next article of importance as a febrifuge; and indeed it is the only one in the materia-medica worthy of consideration, as a succedaneum for the barks and quinine.— It is but little inferior to the quinine, where there is no irritability of the stomach and bowels. From one eighth to the twelfth of a gr. may be taken, from four to six times per day: being careful that the bowels are perfectly loose, and even then, it should always be combined as we have directed in quinine. In this way oedema and other unpleasant consequences are not likely to follow. It is always necessary in order to succeed, to give arsenic during two intermissions in a tertian and three or four in a quotidian.

#### DIRECTIONS TO BE OBSERVED IN FEVERS IN GENERAL.

As this little essay would be defective without a few words of general direction for the management of the patient, which will apply to all grades of this fever, and in fact to all fevers, some brief rules will be offered in this place.

A room as retired and airy as the case will admit of, should be selected for the patient. If possible, the nearest and dearest friend of the patient should take the sole charge of him, and the management of the prescriptions. To this one only,

should the physician give his directions, and get the history of all the symptoms since his last visit.

The neighbors and friends generally, must not be permitted to enter the room. Their kind solicitude for the sick, should never prompt them to come within his hearing. His attendant can inform the patient who have inquired after him, and who have been good enough to present any thing for his comfort, or offer their services to wait on him.

The person who has the charge of the patient, must choose the time out of the twenty-four hours, when he is the most quiet and free from pain, for his own repose, which is generally from midnight until eight or nine in the morning; for during this time, the patient should be disturbed as little as possible; and where it is not contra-indicated, he should be under the influence of an anodyne. During this time, the patient should be left in charge of some quiet, careful person who is agreeable to him, with instructions to hold no conversation, but to do all that is possible to dispose him to perfect quietude. The patient should be taught to take all his medicine and drinks without rising up in bed. When lying on his back, the attendant should put his hand under his occiput, and tip his head a little forward. In this way, he can swallow with as much ease as in any other position. The sick person had better hold the cup or spoon in his own hand. A bed-pan should always be used to save the fatigue of getting up and down. The room should be kept dark and well ventilated, and the most scrupulous cleanliness observed. The patient's linen should be often changed. Every cup and spoon as soon as used for medicine or drinks, should be taken immediately out of the room and washed. In hot weather, the room may be kept at an agreeable temperature during the heat of the day, by often mopping or sprinkling the floor, unless some existing pulmonary affection should seem to forbid it. The bed-clothes should be as light and few as possi-



ble during the stage of excitement, and until the fever has passed the acme, when more clothes should be used. The extremities should be examined often by the attendant and kept as warm as the rest of the surface, by using external heat, friction, sinapisms &c., if necessary. When there is much heat of the skin, the patient should be sponged over often with something cold. Where the heat is not so great, and warm sponging is more agreeable to the feelings of the patient, that should be practised two or three times in the twenty-four hours. This occasion should always be taken to use considerable friction all over the surface, with the hand or a coarse cloth. If from stupor, or any other reason, the patient does not attend to it, the attendant should change his position occasionally in bed. He should always arouse him from a disturbed or lethargic sleep, but not from a quiet one, even to give him medicine or drinks, unless it is too protracted. In summer he must lie on straw or a mattress, without blankets or comforters over it. Straw pillows should always be preferred, especially if the head be at all affected. These remarks would have been omitted at this time, if it were not for their acknowledged importance, and from knowing how very often such rules are disregarded. The truth is, leaving the necessary pills or powders is but a tythe of the physician's duty. All acknowledge the importance of good nursing, but in order to secure it, the physician must see to it. The best part of the house should be selected and regulated before he leaves the patient, and some one in particular must be chosen to take charge of the directions, and the croakers and gossips forbidden the apartment, and if possible expelled from the premises.

## CHAPTER II.

*Simple Miasmal fever of the synochus grade.*

## SYMPTOMS.

This grade of fever may generally be distinguished at its accession, from its premonitory or forming stage occupying a greater space of time, than the one just described. Several days are frequently taken up by equivocal premonitory symptoms, before the cold stage commences. Such as a bad taste in the mouth, a sense of weakness and uneasiness in the lower limbs, and a slight headache and back ache, are frequently noticed toward night or every other night, for several days, without attracting much attention. The cold stage is not marked by great violence, but is protracted in its duration. Transient flashes of heat commence, alternating with the chills and rigors; but much more time elapses before the heat predominates, than in the preceding grade. The skin is redder than natural in the more aggravated cases, though not so much flushed, or so hot as in the preceding grade. In some instances the skin is paler than natural, but not so shrunken and ash-colored as in typhus.

The fur upon the tongue is white, and frequently slimy, accompanied with a very bad taste in the mouth. This fur frequently becomes dry very soon, and of a dark brown along the centre, or all over the surface. The urine is red, and diminished in quantity. The arterial action is much increased in frequency and force. But though the fever sets in, in its severer forms, with a degree of vascular reaction, and general strength, little short of that in the *synochal* grade; yet, both the *grade* of fever and general powers of life, soon wane and

incline to the low or typhoid state. If delirium occurs during the exacerbations, it is not of so violent a kind as in the synochal grade, neither does the patient experience much intolerance of light and sound, unless there is some cerebral inflammation present. There is generally flatulence or more irritability of the stomach in this than in the former variety, and the patient is more peevish and morose. Much the larger share of the miasmatic fevers which occur in this section of the country are of this grade. It, in fact, includes all, except such as are of the inflammatory grade, or such as are marked by typhoid symptoms from the commencement.

In the simple form of this fever; that is, when it is not connected with local inflammation to any extent, the intermissions and remissions are very distinct and perfect, leaving the patient to suppose he is quite recovered. The sweating is generally profuse, and leaves the skin cool and soft.

The intermittents that occur in this grade of *miasmatic fever* are such as frequently allow of the patient's being about and attending to his business during the whole of the intermission. The paroxysms are generally *tertian*, except in the latter part of summer or autumn, when they are most apt to be *double tertian* or *quotidian*.

#### TREATMENT.

Almost every thing that has a medicinal property, has been recommended by some one, as a certain cure for this form of ague, as it is popularly called; beside which, a great variety of charms, amulets, &c., have had their day of favor.

This form of the disease affords a large field for the enterprise of the quack and nostrum-monger. The most opposite modes of cure have been recommended, and have shared equally the popular confidence. Others again, recommend to let it run until it wears itself out, as it is called. Very



many, in miasmatic districts, adopt this latter expedient, after spending considerable sums for nostrums, and after swallowing a great variety of useless and disgusting quack remedies. This disease, above all others, will often admit with impunity, of the most opposite and improper modes of treatment, or of no treatment whatever.

Blood-letting is not generally necessary in this grade of simple intermittent. It may be used to advantage, however, in persons of very sanguine and phlethoric temperaments, or where the bowels are not moved by the usual amount of cathartic medicines. When resorted to, it had better be in the cold stage; if not then, in the hot stage; but it should not be used in the sweating stage, and seldom during the apyrexia. The bowels should be freely evacuated, as directed at page eleven. When the intermissions become perfect, denoted by freedom from pain in the head, a clean tongue, no thirst, universally cool and moist skin, &c., the barks or quinine may be given as recommended at page fifteen. These febrifuges are often used without these precautions. As soon as it is ascertained that the disease is an intermittent, barks, &c., are immediately exhibited during the apyrexia, and it must be acknowledged that in most cases, this treatment is successful. The hurry of the physician's business, and the impatience of the sick, have led to much indiscriminate practice in this distemper. But whoever practises extensively in this way will fail in some instances in breaking up the disease, by the accustomed quantity of bark, quinine or arsenic; relapses will be more common in his wake, and he will have the mortification of converting some fevers that were intermittent at first, into a remittent or continued fever; and of aggravating some incipient local inflammations which were hitherto latent.

Some very respectable physicians and authors, who have witnessed the ill effects of such hurried and indiscriminate practice, recommend waiting till the fifth or seventh paroxysm

before attempting to stop the fever, and administer well chosen cathartics &c., in the mean time, as often at least, as every paroxysm. At this time, it often stops of its own accord; but if not, it may be checked by the usual remedies. If there be no urgent necessity of putting an immediate stop to an intermittent, it will be better on the whole to put off giving quinine, arsenic &c., long enough to administer proper cathartics, and have them operate about the time of the expected paroxysm, for a few times; or at least long enough to have the intermissions perfect and free from heat of the skin, pain in the head and back, and fur on the tongue, thirst, &c. If any one should choose to adopt this plan, a few exceptions to this rule should here be insisted on. If the patient be very old and debilitated, it should generally be stopped as soon as possible; for such subjects are frequently carried off very suddenly, especially by a quotidian. If it be a young child, and especially if it cause convulsions, as it very often does, the necessity for putting an immediate stop to it, is paramount to all other considerations. These convulsions in children generally occur about the commencement of the sweating stage, but in a few rare instances they have occurred in the cold stage. These convulsions generally cause great alarm, but experience proves there is little ground for apprehension; for among all the cases we have witnessed and heard of in this section of the country, amounting probably to several hundreds, we do not recollect of but one or two instances where it proved fatal. If the cold fit threatens to produce a miscarriage, as it sometimes does, we should make no delay; and above all, should parturition take place during the existence of an intermittent, it should be immediately intercepted; for the next paroxysm succeeding a confinement has often caused a very unexpected prostration, and in several instances has proved fatal.

Ten or twelve grs. quinine, combined with rhei and aloes

as before recommended, or an equivalent of some other febrifuge, should be given in ten days after the last exacerbation, to insure the patient against an early relapse. Those who have frequent relapses, and those who undertake to wear out the ague, often suffer severely from visceral organic derangements, as a consequence. Disease of the spleen, liver, mesenteric glands, general anasarca or effusions in the abdomen, or thorax, are the most common. Though wearing it out, as it is called, terminates favorably in a majority of cases, yet out of a great number, some will result as above stated.

In the April number of the Edinburgh Medical and Surgical Journal for 1827, a valuable paper was published, which was communicated by Doct. Mackintosh, on the subject of bleeding in the cold stage of intermittents. His views have been republished more at large, in his very valuable book entitled "Principles of Pathology and Practice of Physic, by John Mackintosh, M. D." His attention seems first to have been called to the use of the lancet in the cold stage of intermittents, from his views of the pathology of the disease, as derived from a vast number of dissections. Subsequent experience confirmed his views in the pathology and treatment. These suggestions coming from such high authority, commanded the early attention of the faculty throughout Europe and India, and whoever has been resolute enough to divest himself of his old prejudices, and give it a fair trial, seems no less pleased than astonished at its success.

He recommends opening a large orifice as soon as the cold stage has fairly commenced; the blood flows sluggishly at first, but, as the venous engorgement becomes lessened, the blood springs in a rapid stream from the arm. If you are successful in opening a good orifice, generally by the time twelve or sixteen ounces are drawn, and often much sooner, the painful cold sensations, and shaking give way to an agreeable sensation of warmth. By this means also the

hot and sweating stages are entirely intercepted, or greatly mitigated in their violence and duration. If the next paroxysm commences with a chill of much intensity, a vein should be opened as before, but if, as is generally the case, the next chill is but very slight, the lancet need not be used; for the hot and sweating stages will be correspondingly mild, if the bed-clothes be properly regulated; and thus the intermittent will be cut short in a few days, by keeping the stomach and bowels properly regulated by the use of cathartics, &c. It is often, however proper and necessary, to give a few grs. of quinine, to subdue the slight febrile paroxysms which remain, in order to perfect the cure. Among the most obvious advantages to be derived from blood-letting in the cold stage, are—

1st. The injury which in many cases results from the continuance of the venous engorgement, which so constantly leads to organic diseases, is avoided.

2d. The danger, proceeding either from the want of sufficient re-action, or from its excess, is also avoided.

3d. It mitigates the present paroxysm very much, in all its stages, and frequently cuts it short entirely.

4th. If subsequent paroxysms occur, they are manifestly lighter, and they will generally cease entirely, after a few fits, without the use of the barks, quinine or arsenic; but if it does become necessary to use them, the system is found to be increased in its susceptibility to their favorable impression, and relapses are much less frequent.

Such is a condensed statement of the views of Doct. Mackintosh, and those who advocate the same treatment; but it is much too brief to do him justice, and the reader is earnestly recommended to peruse his book for a more general understanding of the subject.

We have not been backward in giving these new views of Doct. Mackintosh a trial, as in fact, we feel bound to do in all

cases coming from so respectable a source, and backed up by such an array of unimpeachable testimony, and as far as our limited experience will enable us to judge, we are compelled to think very favorably of his statements. In most of the cases in which we have tried it, the bowels were too tumid or costive, or the tongue was too much loaded, or there was too much uneasiness in the head to render the use of quinine strictly proper. In these cases the bleeding in the cold stage was of manifest advantage, by lessening the severity of that particular fit and mitigating the intensity of the subsequent ones, and in several cases the paroxysms ceased soon, without the use of quinine or arsenic, which we are sure would not have taken place, if it had not been from the bleeding.

The cases that were bled have not relapsed yet, though several were on hand at the time, who were cured in the ordinary way, and most of these have relapsed once and some twice. More recently still, we were applied to by a patient, who, to use his own words, "could not make the ague stay cured by the use of quinine." The first cold stage after this, we opened a vein as soon as the cold stage had fairly commenced; when about eleven ounces were drawn, the chills ceased and the hot stage was less painful and shorter than common. On the third day about the same hour, the cold stage again recurred, and the drawing of about eight or nine ounces of blood intercepted the entire paroxysm, and he went the remainder of the day about his business, affirming that he felt perfectly well. Though this patient was one, who people generally would say had no blood to spare, yet he experienced not the least ill effects from its loss, but has enjoyed his health and strength ever since, and has had no relapse though he thinks if he had taken quinine, it would have relapsed several times, and his health would have been less perfect than it now is.



The remittents of this grade, require but a slight modification in their treatment from that in the preceding grade. If an early opportunity should offer of blood-letting in the cold stage, it should hardly be omitted; but as in most instances it does not, we must be guided in this particular by other circumstances. If the patient is not very sanguine and plethoric, and if on a careful investigation, there appears to be no local inflammation, or no determination which seems to threaten it, it will not be necessary to bleed, except, when the bowels will not move freely on giving the patient his accustomed dose of physic. When this happens, the medicine should not be much increased in quantity, but an adequate bleeding will correct the evil. The antiphlogistic treatment and other matters, must be regulated as was recommended in the stage of excitement in the synochal grade. The remissions should be encouraged, by giving tepid drinks &c., during the sweating stage. By this means, we make the remissions more perfect and longer, which is always desirable; and if they become more distinct and longer at the end of each paroxysm, we shall have reason to hope that it will soon terminate in an intermittent, if not before, soon after it enters on the declining stage.

It has been recommended by some, to give quinine in large doses during the remissions. If it be admissable at all, it can only be so under a very favorable combination of circumstances. It is improper to give it during the sweating stage, even in an intermittent; for the sweating stage is as much a part of the exacerbation, as the cold or hot stage. Now if the apyrexia following the sweating stage be perfect, the patient free from restlessness and pain, skin cool over the entire surface, no febrile heat, acrimony, or dryness about the chest or arm-pits, and free from thirst, tongue natural, then without doubt quinine may be given with little danger of injury. But the

time that elapses, if any, after the termination of the sweating stage. and the accession of the next paroxysm, is generally very brief, too brief to do much good with quinine, if it has the right tendency. Let us inquire, what is quinine given for, in *intermittents*? Is it given for any other purpose than to intercept the paroxysm? If it fails in this, does it do any good? Is it expected to intercept the next paroxysm of a remittent, by those who recommend it? If the apyrexia is not sufficiently long and perfect to entitle it to the name of an intermittent, quinine cannot be given with much prospect of benefit; and injury very often results from it. It sometimes happens, after all the violent and more urgent symptoms of the disease have abated, and we are expecting it to terminate in convalescence, about the seventh, eighth, or ninth day, that from some cause, hard to determine, a remnant as it were, of the fever, holds on, and assumes a more continued and slightly typhoid form, characterized sometimes, by rather disagreeable and profuse sweats, a slight delirium by turns, and a little subsultus, and a dark tongue.

Such appearances should prompt the practitioner to the most scrutinizing search for some local malady, which may have been hitherto latent, or which may just now be forming, and if any such local disease be found you are referred to the proper head for the treatment. If not, we have little to apprehend as to the final result, though the case may be a protracted one. If these symptoms become of a decidedly typhoid character, the treatment recommended under the next head will be suitable, but if not we may keep the bowels quietly open, and the extremities warm, allow more bed-clothes, leave off the nitre, antimonials. &c., and give more nourishment, if his stomach will admit of it; use considerable friction of the skin; check the sweats with a cloth dipped in strong salaratus water, camphorated spirits, or alchocol,

and applied to the skin by friction, as often as the sweating becomes profuse. Procure rest at night by a Dover's powder, or if inclined to be a little comatose, apply a blister to the back of the neck.



## CHAPTER III.

*Simple Miasmal fever of the typhoid grade.*

## REMARKS.

Though this grade of miasmal fever occurs perhaps but seldom, as a primary fever, and disconnected with local lesions, yet there are some reasons for assigning to it a separate position in this arrangement.

It is a fever of a distinct grade, giving rise to a peculiar set of general symptoms, and though some viscus or tissue is almost always affected, yet some things in reference to the treatment, are common, and but little modified on account of the local phlogosis. And again, the signs which indicate the seat of the local affection, are sometimes so obscure and equivocal, that little more can be done than prescribe for the general symptoms.

Though it generally occurs as a second stage or sequel of one of the other grades, or is preceded by a longer or shorter period of fever of the *synochal* or *synochus* grades, yet when the *typhoid* grade of fever does set in, it is as distinct in its character, and requires as much peculiarity of treatment, as any other species or variety of fever whatever.

## SYMPTOMS.

This grade of fever is so easily recognized, that no one is likely to mistake it; in fact, all the relatives and friends who are permitted to look in upon the patient, have discernment enough, to see at once, that the fever, as they say, "has run into a typhus;" and so near does it simulate the true typhus,

that it would be impossible for a physician to pronounce that it was not, by the existing symptoms, without calling to his aid the history of the case, or the prevailing epidemic.—Hence, *typhoid* is by far the most significant cognomen that could be given to this grade of miasmatic fever. The patient has a quick, feeble pulse; great prostration, delirium or coma, usually a brown or black and dry tongue, black sordes about the teeth, difficulty of protruding the tongue, picking at the bed-clothes, subsultus tendinum, *calor mordax*, difficult deglutition, involuntary evacuations and stupor. He replies to your questions with reluctance, and his answers are short, peevish and sarcastic; profuse, hot or clammy sweats, sometimes bedew nearly the whole surface, but are frequently confined to the head, chest and neck; dark grumous blood sometimes oozes from the gums, the breath is offensive, skin pale and shrunken, great alteration of the features and voice, and great muscular weakness, epistaxis and dizziness; and vertigo if compelled to sit up. It is frequently from a week to ten days, before the milder of the typhoid symptoms mentioned above, make their appearance, having been preceded by febrile symptoms, usually of the *synochus* grade. But under more aggravating exciting causes, as in the paludal districts of the tropical regions, or in a *very hot* and dry season in temperate regions, where a quantity of low ground usually covered with water, is exposed to a hot sun, in the immediate vicinity of a large population as was the case with Dexter, by draining the mill-pond in the autumn of 1828; some cases usually occur, marked by the more malignant of the above symptoms, making their onset with great impetuosity and with little, or no previous stage of the *synochus* grade.

Symptoms like the above, with more or less violence, often continue for a week, or even ten or twelve days, and terminate in death or a very gradual recovery, with a protracted convalescence.

## TREATMENT.

In the first place, make yourself acquainted with the history of the case. Is it a recent attack, or has it passed through some days of the *synochus grade*? Then put your patient under a rigid examination for local inflammations and congestions, according to the diagnostic symptoms hereafter mentioned. Examine his extremities on every visit yourself, and order bathing, frictions, sinapisms or external warmth, &c., as the case may require. Examine the bladder often, and if it does not discharge its contents freely as it often does not, pass the catheter. Examine the hips and sacrum, to see that no ulcers are formed from too constant pressure, and vary his position frequently, by bolstering him in different positions.

If it be a recent case, do not let the apparent debility deceive you. What has become of the strength and power that the patient was so recently endowed with? Has it been exhausted by violent and protracted febrile excitement, or are the powers of life pent up or weighed down by some overwhelming cause? If the latter, has he been in this state of oppression so long, that the system will not rally, or react, on taking off some of the load? Apply your ear or a stethoscope over the heart, and see if it be not laboring with more strength, than the pulse of the wrist would seem to indicate.

If on these considerations you can have any well grounded suspicions that depletion should be used, by all means make a trial of it. If you are not sure of its necessity, still under proper precautions, it can be tried as safely as any remedy whatever. Open a vein, and keep your finger on the pulse of the other wrist, and if the pulse does not grow weaker, and above all, if it rises, you may be sure you are right.—If the pulse appears to flag, after a small bleeding, order a little warm wine, external warmth, and friction, and examine your patient again after the lapse of an hour; for perhaps

the system is not past re-action, but is slow to do so, from having endured the load so long. Then if you find reaction is taking place, you may cord the arm and let more blood.—By managing in this way, you will sometimes, in the course of a few hours get a copious bleeding, and have a free and comparatively active state of the circulation ; when but a few hours previously, you might be induced to believe, the patient was ready to sink from actual debility. In this way, it is not uncommon, for the graver typhoid symptoms to be changed to the milder, or perhaps to the *synochus*. In the cases which admit of bleeding, cathartic medicines, which procure copious evacuations should be used ; though irritating purges should be avoided, for fear of producing inflammation of the mucous membrane of the alimentary canal ; a disease most likely to become complicated with the fever, and which it should be our chief purpose to avoid.

When you have decided on not bleeding any more, or on not bleeding at all, and become convinced that you have not to direct your attention to any local affection, there is not much to be done, but to attend to your patient's comfort, and most urgent wants, and stand ready to meet any untoward symptom that may show itself. In the milder cases, your chief care should be, not to injure your patient by too much officiousness, but trust greatly to the *vis medicatrix naturæ*. The whole contents of the stomach and bowels, should be expelled by an enema, followed with a few grs. of calomel, and all worked off by castor oil, mixed either with carbonate of magnesia, or turpentine, as may be preferred. After this the bowels should be moved perhaps twice a day, with some gentle aperients, and enemata, but so as to be sure that none of the contents, are allowed to accumulate, and not pass off.—The antiphlogistic means as previously recommended, should in the main be used, excepting the nitre, antimonials, etc.—An agreeable temperature should be preserved over the entire

surface and extremities, by means already mentioned. If profuse sweats occur, stimulating frictions of mustard, capsicum, alcohol, camphorated spirits, solution of sal. aratus, or some of the mineral acids, or the pulv. cantharides and vinegar, may be frequently used, and if demanded, some internal stimulants may be tried, as wine-whey, with or without a little aqua ammonia, mulled wine, milk punch, lemon punch, or wine and water. If these agree with the stomach without increasing the thirst, dryness of the tongue, and fauces, and restlessness, they may be continued and increased, if necessary, not otherwise. It is said by some, that strong beer or porter, particularly if alternated with good yeast, may be freely administered in some instances, where there is much thirst and dryness of the mouth, with evident advantage, and when the patient will bear nothing else stimulating. Some, are in the habit of recommending barks and quinine; but where a stimulant is necessary, good madeira, or claret. wine is best. It is cheaper and more agreeable. In some extreme sinking cases brandy is used to advantage. A strong decoction of capsicum or capsicum in substance, is sometimes given in extreme cases, and in some instances, with more evident advantage, than any other stimulus. When the patient begins to arouse from this stage of decline, the stimulants must be withdrawn. It is seldom advisable to give bitters, or stimulants during convalescence, or more nourishment than the stomach craves. Errors of this kind, often produce disagreeable diarrhœa, and other unpleasant consequences. In the early settlement of this country, the miasmatal fevers were characterized by a much greater adynamic tendency than now; and when not complicated with too much local disease, required the early use of stimulants, and they were even used sometimes very freely, when local blood-letting, fomentations, and counter-irritation were going on at the same time, to remove a local inflammation.



So strong was this tendency to "run down," as it was called that few patients were permitted to remain twenty-four hours, after the first attack in our autumnal fevers, without forth proof brandy by his side. In a great number of instances, it was early and freely administered; so much so that some, who never made use of it when well, and even delicate females, took from a pint to a quart. every twenty-four hours for several days in succession, with an indefinite quantity of bark and quinine added. This treatment at the time did seem to be the only safe course, and a number of sudden and unexpected deaths took place apparently from a neglect of it.

Such is said to be the tendency of the autumnal fevers in some of the newer parts of our state at this time, and the treatment adopted there by some physicians, is much as has been stated above. But it has been several years, since our miasmatic fevers in this section, have seemed to call for such treatment, and if we were again called on to witness such cases we will not now pretend to decide, how far our views and treatment might be changed according to some suggestions made at page thirty-one.



## PART II.

*Miasmal fevers of the different grades with organic lesions.*

## REMARKS.

This is by far the most important and interesting part of our subject. It is a key to all the discrepancies and contradictions in theory and practice, that have filled our schools and books, till of late, with such irreconcilable jargon on miasmal fevers, and have left the physician to feel humbled in many instances, at his impotence at the bed side of his patient. It has been much the fashion hitherto, to ascertain first, if your fever be a remittent, for instance, and if so, prescribe for the *name* of the disease. You consult one author' whose experience has been confined to one locality, and season, where the most active cathartics, antimonials and nitre were found of the utmost service. Now this author did not know enough to tell you, that in his practice, all his bad cases were accompanied with cerebral inflammation, and it was what he had carefully to avoid in his milder ones. Your own practice may have been for some years, among miasmal fevers of precisely this variety, and consequently you have become much attached to, and confident in the use of similar remedies. But now you change your location, or the disease appears at length in your old neighborhood, complicated with gastretis or enteritis. Still, it is obviously enough, a remittent fever, and the active cathartics, antimonials, nitre, &c. are prescribed, as usual. The physician becomes alarmed at the mortality of the epidemic, and the inertness of his reme-

dies, and in short, nearly all his cases that were originally bad, prove fatal, and his cases that appeared mild at first, and which he expected to discharge cured in a few days, run a protracted and painful course, and recover after a tedious convalescence. In another locality, or another season the fever produces consecutive hepatic, or pulmonic derangements, and phlogosis, each of which demands a radical difference of treatment. Nor must the physician expect to meet with those prominent and well marked symptoms, to point out the seat of a consecutive inflammation, which distinguish them in the phlegmasiæ proper. It is a little surprising on examining this subject with this particular view, that nearly all the books, from the oldest to the latest, abound with instances of nearly every viscus and tissue at different times, having been the seat of disorganizing inflammation, (as shown by post-mortem examinations,) without the most able and experienced attending physicians having had the least suspicion of its existence. This is owing to the fact, that the attention of the faculty has been so little called to the consecutive inflammation in what are called idiopathic fevers, and to the obscurity of the signs which indicate its presence.

It is always advisable when any epidemic changes in some of its symptoms, if you are not positive of the nature of the change, to embrace the earliest opportunity for a post-mortem examination, and thus enable yourself at once to account for the novel phænomena of the malady, by detecting the anatomical lesion. These local affections occur but seldom in the *synochal* grade, more frequently in the *synochus* grade, but much the most frequently in the *typhoid* grade of *miasmatic fever*.

## CHAPTER I.

*Gastro-Enteritic Miasmal fever, or miasmal fever complicated with inflammation of the alimentary canal.*

This is by far the most common phlogosis, that we have to contend with in these fevers, and the pathognomic symptoms, are not always palpable, especially in the *typhoid grade*; where it may exist to an alarming degree, and yet, that stunned or apathetic state, under which the whole system seems to be laboring, prevents the developement of such symptoms as would, under any other circumstances, point out the nature and extent of the malady. It is a fatal error to suppose, that pain and tenderness are always to be met with, in consecutive abdominal inflammations, especially when the fever is of the *typhoid grade*. Neither is it an easy matter, to point out the precise seat of the inflammation, because gastretis, enteritis, peritonitis &c., have many signs in common, and because more parts than one are usually implicated at the same time.

## SYMPTOMS.

The patient most commonly lies on his back, with his knees drawn up, and when pressure is made on the abdomen, he complains of soreness, or if from stupor, he is not inclined to speak, he evinces signs of pain, by knitting his brows and showing other symptoms of uneasiness. There is generally an increase of heat over the abdomen, and often at the same time a damp coldness about the face and forehead. Intense

thirst for cold drinks, and frequent vomiting, if the inflammation be in the stomach, or upper part of the bowels. And if in this part, fluid or other substances that are taken on the stomach, are soon rejected, but sooner if they be warm. Bile is generally ejected, and the patient experiences temporary relief after vomiting. The tongue is red about the edges and tip, and in many instances the redness extends over the entire surface, presenting a skinned appearance. It often becomes dry and brown along the centre, and chapped. There is soreness about the fauces and difficult deglutition. The abdomen is fuller than natural, and distended by gas. A gurgling noise is often heard in the bowels, especially after drinking. If the inflammation be confined to the lower part of the intestines, many of the above symptoms will not present themselves. There is generally frequent mucous or oily stools, in some instances diarrhoea, sometimes a little mucous streaked with blood; in other instances watery, bilious, and acrid dejections, a hollow appearance about the eye, and great muscular prostration. Faint and sinking turns just before, or at the time of any thing passing the bowels, is an indication of enteritis. The least peristaltic motion of the bowels, even to expel a little gas, sometimes produces a sense of fainting, and the patient calls for camphor and volatile salts and asks to be fanned. It would be very unfortunate to mistake such symptoms, for pure debility, and thereby pursue the wrong treatment, as it must almost of necessity prove fatal.

In the more advanced stages of the disease, copious liquid evacuations mixed with dissolved blood, or large quantities of blood but little mixed, pass from the bowels producing rapid exhaustion of strength. These are accompanied with the most alarming sinking turns, and in some cases, with profuse, cold, clammy sweats, threatening immediate dissolution.

If the inflammation be seated in the duodenum, there is generally a puffy feel over the part; and the whole surface

of the body, but more especially the skin about the face and neck, becomes jaundiced. This icteroid appearance, frequently occurs without the least disease of the liver, or obstruction of the biliary ducts, as bile is found in its usual quantity in the evacuations from the stomach and bowels.

Children from six months to five or six years old, are peculiarly liable to exhibit many of the above symptoms, accompanied with a fever of the *synochus grade* constituting, what is called *infantile remittent*. Although the affection is not necessarily of miasmatic origin, yet the pathological condition of the abdomen, and the proper treatment, are so analogous, that it was deemed expedient to allude to it in this place. The distension and irregularity of the child's bowels variable appetite, picking at its nose and lips, starting in its sleep &c., often induce the friends to believe that the child has worms, the poor little sufferer is drenched with every thing in the house "good for worms," and every croaker and gossip in the neighborhood, kindly prescribes her "sure cure," but, contrary to all their expectations, the child grows worse! and after thus converting a very mild disease into a formidable one, a physician is sent for in time to be "in at the death."—It is, perhaps, now, more than the doctor can do, to undeceive them. They inform him very gravely that "the child has worms!" that they "have given the most active medicines they have, and they have sent for him to see if he had something more powerful to expell them." It is seldom we meet in practice with a more frequent, fatal, and yet inveterate delusion than this. If you will kill the child with drastic medicines. "for worms," all is well; but if you save the child without "expelling the worms," they never feel exactly satisfied about it. If it were not for depriving these worm doctresses of so much of their consequence in the world, could almost wish that there was not a worm in existence.



## TREATMENT.

If the patient is in a condition to take any nourishment, he must be confined exclusively to that which is bland and mucilaginous, as, arrow-root, sago, tapioca, *blanc-manger*, etc.—He must be confined to cooling mucilaginous drinks, acidulated, or not, as he prefers.

Bleeding, cupping or leeching, blistering followed by large bran fomentations, &c., must be had recourse to in their turn, and according to the exigency of the case. Bleeding should be more frequently resorted to, and carried to much greater extent in these cases, than the general symptoms would seem to warrant. There is no error so often made in general practice, as to mistake the low symptoms consequent on a consecutive inflammation of the mucous membrane of the alimentary canal, for real or pure debility. This leads to the use of stimulants and tonics, instead of free depletion, general and local counter-irritation, fomentations, and copious mucilaginous injections of flax-seed tea, etc. The contents of the stomach and bowels should be thoroughly expelled if possible, and with the least irritating medicines. For this purpose the patient should first be put under the influence of a large anodyne; then five or six grains of calomel, followed in two hours with repeated doses of castor oil, and carbonate of magnesia, (see page thirty two,) will be found the best for this purpose; still repeating, if necessary, the opium, so as to insure an operation without pain or irritation. After this the bowels should be carefully moved about once or twice in the twenty-four hours, by some such mild means as above stated, assisted by proper enemata. In cases of very frequent acrid or bloody stools, or in any case where there is too much looseness of the bowels, you should be careful to clear them thoroughly; but in the most cautious and gentle manner possible; and prevent accumulations in future, by using the same



means as often as necessary for that purpose, but not oftener. Next to this, repose is what the bowels most need, and this *they must have*, or all other means are useless. For this purpose, opium is our main dependence, and should be used without stint. It is a great error to suppose that opium is unfavorable to the operation of cathartics, in cases where there is much irritation of the alimentary canal: for in many such instances, it is a powerful and indispensable adjuvant.— Any cathartics, without the use of opium, which may be exhibited, will oftentimes produce sickness of the stomach, tormina, and frequent watery dejections, attended with no relief; whereas, if the patient be kept steadily under the influence of opium, the same cathartics will procure one or two large, consistent evacuations, with evident relief to the patient, and without pain. Opium and calomel, one gr. each, in a pill, may be given every one, two, three, or four hours, as the nature of the case demands. If this is not sufficient, or if opium is contra-indicated in such large doses, acetate of lead may be used to any extent, combined with opium in the proportion of three or four gr. of the former, to one of the latter. This will seldom fail in arresting the frequent discharges. When the stomach is irritable, and sometimes when it is not, these medicines given by injections, are found to do much the best. For this purpose, a large tea-spoon full of laudanum, in half a tea-cup full of thin starch, may be injected immediately after every stool. The quantity of fluid should be small at first, to insure its retention, but may be afterwards increased. To this injection the lead may be added if necessary.

In some instances, where frequent watery stools are difficult to restrain, and there is but little fever, it will be found advisable to put your laudanum and lead in a strong decoction of logwood for an injection. This last is more easily retained than either of the others, and has more power over bad cases. One powerful means of overcoming too frequent evacuations,

and one too much neglected, is the use of large injections of starch or flax-seed tea. When the patient feels inclined to have something pass his bowels, a flax-seed tea injection administered, with, or even without a little laudanum added, will generally compose him at once. There are very few cases where repose and quietude may not be procured for the bowels, by the use of the calomel and opium pill, aided by flax-seed tea injections, if the latter are administered as often as once in from two to four hours, with or without a little laudanum, as is necessary. Hot bran fomentations should generally be used in the mean time, even though there may be little or no perceptible tenderness from pressure. After keeping the bowels quiet in this way for a day or two, it is generally no very hard matter to procure one or two large and consistent stools, per day, by the use of oil and magnesia, or oil and turpentine, (if there is not much fever and acute inflammation.) It sometimes happens in these cases however, to be a very difficult task, to get any cathartic, to do any thing more than operate, by procuring small fluid stools, the very state of things above all others, which we wish to avoid. A very good article in such cases, is pulverized brimstone, or well washed sulphur. A tea-spoon full should be given about once in four hours. It is more likely to procure a consistent evacuation in twenty-four or thirty-six hours without any small watery ones, than any other article in the materia-medica, and it leaves the bowels more disposed to quietude. Pulverized charcoal makes a tolerable substitute for sulphur, *or it may be alternated with it*, by giving a tea-spoon full at a time.—Charcoal is of especial benefit where you wish to add the powers of an absorbent or antiseptic, to that of a cathartic.—It is frequently given in conjunction with yeast.

One thing should be always borne in mind, in giving cathartics in these cases of whatever kind, and this is the opium and injections, and even astringents, if they are used, should

be steadily persevered in; as well when the cathartics are being given, as at any other time. Care should be taken not to discontinue the flax-seed enemata too soon, on the bowels becoming a little more quiet.

Balsam of copavia, or oil of turpentine, mixed with castor oil, in the proportion of one part of the former, to three or four of the latter, has been much extolled by some, as a cathartic in some cases, but especially where the inflammation is not very acute. This might seem incompatible with the previous injunction, to give nothing stimulating or irritating; but experience proves, that a small tea-spoon full of turpentine, and a table-spoon full of cold pressed castor oil, simmered in a little sweet-milk and sugar, (with which it mixes,) is one of the best aperients that can be given in these cases. The quantity can be increased, if thought necessary, as the above is a moderate dose. This may be given instead of the oil and magnesia. In all cases, where the stomach or bowels are in this state, all nitre, antimonials, muriate of ammonia, acetate of ammonia, &c., should be carefully withheld. Eberle recommends, that where the alimentary canal becomes irritated by the use of the above articles, or by irritating cathartics, producing tormina and frequent watery stools, the following medicine should be given aided by mucilaginous drinks:—

Calomel gr. j

Pulv. Ipecac. gr. vij. M.

Divide into eight equal parts, and give one every half hour or hour."

The above is found to be an excellent prescription in such cases. The extreme sinking turns which are apt to accompany this disease in its declining stage, consequent upon profuse or bloody dejections, and accompanied generally, by copious clammy sweats, must be met, with as much promptitude as possible. External warmth and irritating frictions, sinapisms over a great part of the extremities, and all that can be

done by *external* means, must be done. Internally, you may give wine or brandy, or hot wine or brandy toddy, ammonia, sul. ether saturated with camphor, thirty or forty drops every hour or two, red pepper tea, quinine in liberal doses, &c., but, where wine is sufficient, it is preferable. Care should be taken not to use these articles longer than is necessary, and not to place too much reliance on them; but direct your attention to the pathological condition of the alimentary canal, and the abdominal viscera, and to the use of such means for their cure as have been heretofore pointed out, and such as your own good sense can devise.

When the stomach is very irritable, and apt to reject its contents often, (except where some retching proceeds from a phrenitis, as is sometimes the case) you may make the attempt if you like, to allay it, by a large dose of clear laudanum, or opium and cal. two or three grs. of each, in a pill; denying the patient every thing to be taken on the stomach until this produces its effect; then by keeping up this strong anodyne impression, and proceeding with caution, letting the patient take but little iced or cold drinks at a time, you may get on without any further difficulty. If, however, you are satisfied that there is any irritating ingesta in the stomach, some warm water, canomile or weak boneset tea, should be premised, so as to get a full discharge from the stomach first.

The anodyne should be always given immediately after vomiting. If however, this should be rejected, or if from any cause, you are satisfied that such will be the result, you may always put the system under the influence of opium, just as well by injections. After having bled and cupped, if necessary, and prescribed a mustard plaster, or a blister followed by fomentations, your main reliance should be on anodyne injections, to get the system under its full influence, then keep it up, by the small calomel and opium pill of equal parts, carefully excluding every thing else from the stomach, except a

spoonful of cold water, occasionally, measured out in a spoon with a few small lumps of ice, if at hand. Even this, had better sometimes be held in the mouth and spit out without swallowing, as nothing is of so much importance as repose to the stomach, when in a highly irritable condition; and this cannot be procured in many instances, without withholding every thing from the stomach, even for several days.— Before commencing with anodyne injections, as full a cathartic operation should be procured as possible, by enemata first, and these should be repeated from time to time, as often as is necessary. Then after quieting the bowels with anodyne injections, you may throw up as much water, milk and water, thin starch, strained water-gruel, etc., as is necessary to supply the system with sufficient fluids and nourishment. This may be continued, if the stomach remains irritable, for several days; the stomach being denied every thing in some instances, and in others, nothing being admitted but the opium and calomel pill. In short when the system requires the operation of any medicine, and from any cause it cannot well be admitted through the stomach, it can be given with just about the same advantage by the rectum.

Any of the cathartics, as aloes, rhubarb, jalap, salts, and senna, &c.; any of the anodynes, or antispasmodics, any of the tonics, stimulants or astringents, as quinine, brandy, or wine, acetate of lead, &c.; diluents and nourishment, as beef or chicken tea, in addition to what has been before named, and in fact, almost every article in the *materia medica*, if properly prepared, may be given by the rectum, in about the same quantity, and with about the same certainty, that each will have its specific operation, as if given by the stomach. In fact, in all instances, where there is great irritability of the stomach, whether from gastritis, enteritis, or any other cause, injections are of the utmost importance.



In instances of great irritability, of the stomach, and vomiting, from whatever cause, the patient generally suffers much from thirst and dry skin. Drinks are rejected before they can enter the circulation, and though the patient swallows ever so much fluid, it is instantly rejected, and he still suffers from the most tormenting thirst. In all cases, of this kind, if you order an injection of a pint or more of thin starch, warm water, or water gruel, every two, three, or four hours, according to the urgency of the symptoms, the thirst will be allayed and the skin bedewed with a gentle moisture. Whoever has witnessed the suffering from constant vomiting, thirst, jactitation, dry hot skin, etc., always consequent upon acute gastritis, and some cases of enteritis, will appreciate this announcement very highly; as there are few diseases without this remedy, in which the patient suffers more, and few if it be properly used, in which they suffer less.

The intermittents which occur, complicated with irritation of the alimentary canal, have a fever of the *synochus grade* generally. If on a careful inspection, the inflammation seems to be but very slight, you need not always delay the giving of the quinine, until every vestige of it is overcome.

You should procure a bleeding in the cold stage if possible first, and repeat it with the next cold stage, if necessary, then topical bleedings and counter-irritation, &c., should be premised, if the nature of the case seems to require it. Then, if the intermissions are perfect, no thirst, no heat of the skin about the abdomen, no irritation evinced by the pulse, and tongue not loaded, you may prescribe the usual quantity of quinine, largely diluted in some cooling mucilaginous beverage, taking care to keep the bowels open. But, it sometimes happens that the paroxysms are perfectly regular, as to time, and duration; and terminate in a profuse but hot sweat, without leaving the patient during the intermission perfectly free



from restlessness, thirst, &c., skin on the body a little too hot, the pulse a little corded, the abdomen perhaps a little tumid, meteorism, and watery dejections or costiveness, and a loaded or polished tongue. If under any of these circumstances, the physician regards the case as a *simple intermittent of the synochus or synochal grade*, and prescribes his quinine, or other febrifuges of this class, he may or may not intercept very easily the intermittent paroxysms, but the local irritation will become augmented, and deeper seated; the fever will become remittent or continued, and after several days, it is likely to become of the *typhoid grade*, and run a protracted and dangerous course. Such is the origin and history of some of the most fatal cases that have occurred in this section of Michigan.

But the consecutive inflammation of the mucous membrane of the alimentary canal, consequent upon *miasmatic fever* cannot be much protracted without converting the fever into the continued form, and *typhoid grade*. One reason why we have so much of this grade of fever in the autumn and forepart of winter, to deal with, is that the examination of the early symptoms is not sufficiently minute and discriminating; the incipient phlogosis is not detected, and early subdued or guarded against, and it insiduously steals on, until it produces this grade of fever, when, although the inflammation is probably aggravated, yet, the *typhoid grade* of fever, so subdues or locks up the sensibility of the whole system, that the symptoms which would indicate its presence in an original inflammation of this tissue are seldom present.

This last fact should be kept constantly in mind, in making our diagnoses; not only when this tissue is inflamed, but where any other tissue or viscus is presumed to be implicated.

It is a matter of the first importance in the recovery from this disease, that the most rigid abstemiousness from every article calculated to irritate the stomach and bowels be obser-

ved, until the patient is far advanced in his convalescence.—  
 Relapses and chronic irritations are very apt to follow these  
 attacks, and in many instances the bowels are more or less  
 bloated for six or twelve months afterwards.

## CHAPTER II.

*Hepatic Miasmal fever, or miasmal fever complicated with inflammation of the liver.*

## SYMPTOMS.

When this organ is diseased in *miasmal fever*, the symptoms in many respects are not unlike those, when gastritis is present, as nausea, vomiting, thirst &c. But the pulse is not usually so weak and small, neither is vomiting produced so soon by injesta, nor is muscular weakness so great as in gastritis. The skin and conjunctiva are icteroid in most instances, though not always, as in inflammation of the mucous coat of the duodenum, but, it can be distinguished from the latter, by there being little or no healthy bile in the evacuations from the stomach and bowels. If the liver be acutely and much affected, the stomach ejects no bile, and the stools are of a clay or ash color. The urine is scanty and high colored. There is generally a sense of weight, fullness and pulsation, in the right hypocondrium, a little pain in the right shoulder, and uneasiness in lying on the left side. Pressure under or over the short ribs, produces a sense of soreness or pain.

There is apt to be a little cough without any other symptoms of bronchitis. This cough, produces an increased uneasiness or pain in the side, and a disposition to vomit.

The tongue is not much furred at first, but finally a dark red list extends over the centre to the dorsum and soon turns black. Towards the termination of this variety of fever, especially if it has not been thoroughly treated from the commencement, the liver strives to relieve itself by throwing off a large quantity of black, thick, tar-like bile, or blood, which

passes by the bowels. This is no doubt a critical discharge, and should be regarded favorably, and encouraged by full cathartics. This is almost the only hope when the liver has been violently implicated, and proper treatment neglected.— This discharge from the liver is likely to be preceded or followed by sinking turns, resembling those mentioned in enteritis, which requires the use of cordial stimulants, warm wine and milk, or wine and water, at the same time you use full cathartic doses to carry off the offensive matter.

We must be careful however in this as in all other cases of consecutive inflammations, that we do not wait for all those symptoms to present themselves before we apprehend the true nature of the case; for in truth but very few of the above signs are present, and these but in their faintest degree, especially when the fever is *typhoid*; and yet the local affection may be of disorganizing violence.

#### TREATMENT.

After having used general and topical depletion, (if not contra-indicated) blistering, fomentations, &c., and put the patient on such a course, as the *grade* of fever indicates, calomel is our main remedy. From ten to twenty grs. should be given every four or five hours, and should be persevered in, until ptyalism is produced, or until the liver discharges bile copiously. If there is much irritation of the stomach, as there usually is, opium should be combined with the calomel, and effervescing draughts exhibited to allay it. If the calomel does not keep the bowels sufficiently open, other aperients, enemata, &c., should be had recourse to, in sufficient quantities for the purpose.

Some physicians, after having witnessed the great benefits derived from the use of large doses of calomel, in the hepatic variety of miasmatic fevers, have blindly recommended it in all cases. The physicians of southern latitudes, where

these fevers are generally hepatic, have done much toward propagating this popular error. But in this latitude, there are several other organs, either of which are as likely to be diseased as the liver, and perhaps the mucous membrane of the alimentary canal much more likely, and in which nothing could be more preposterous and injurious than such enormous doses of calomel.

## CHAPTER III.

*Splenitic Miasmal fever, or miasmal fever, complicated with inflammation of the spleen.*

## SYMPTOMS.

It is not often easy to mistake, when this organ is diseased in miasmal fever, unless when there is considerable stupor and insensibility, in consequence of a *typhoid grade* of fever. But, it is by far the most common, for the spleen to be inflamed in the *synochus grade*, and the fever intermittent. There is almost always pain in the position of the spleen, and running up into the left shoulder. You can feel the spleen distinctly, on examining with the hand, enlarged and hardened. The tongue is frequently smooth and polished, which leaves but little doubt, that there is some gastro-intestinal irritation accompanying it.

## TREATMENT.

The usual general and topical depletion, counter irritation, &c., with other antiphlogistic means, must be used, to the extent that seems necessary. The fever treated according to its grade.

If the fever be intermittent, as it most commonly is, and the intermissions perfect, it is not always necessary to put off giving the quinine, until the local disease is entirely removed; in fact, each successive paroxysm often increases the local difficulty, do what you will to remove it, until the quinine be given and the exacerbations of intermittent, intercepted.—Quinine may be given with impunity, when there is more in-



inflammation of the spleen, than any other organ. The same rule should govern us here, however, as in other local affections, about giving the quinine, viz: the intermissions of *fever must be perfect*. If the ordinary quantity does not stop the paroxysms, you must not continue it. Iodyne has been much recommended in chronic affections of the spleen. Muriate of ammonia has probably more reputation in removing affections of the spleen, in conjunction with the other necessary general and local means than any other article now in use in this country. Eberle puts great confidence in it, and recommends that it be given, if intermittent fever exist, in combination with quinine, in the proportion of twenty grs. of the former to two of the latter; and continued thus liberally after the quinine is no longer necessary. It should be given in some emulsion.

Thus— Muriate ammoniæ, oz. ss.  
 Pulv. ext. glycyrrh, oz. i  
 Tart. antimonii gr. j  
 Aq. fontanæ, f oz. viii M, ft. S.

Take a table spoonfull every four hours during the day.

Blue pill, or small doses of calomel, so as to affect the gums is frequently recommended and generally resorted to, but experience can testify but little in its favor. Physicians in the East Indies, who have much experience in treating diseases of the spleen, have discarded mercurials in any form. Some of the preparations of iron, generally the sul., combined with cathartics, are now extensively used there, both by the native and European physicians, in chronic diseases of this organ. In Bengal, there is a preparation much in use called the "spleen mixture."

Pulv. jalap,  
 Pulv. Rhei.  
 Pulv. columbæ,  
 Pulv. zinziberus,

Potassæ supertartratis, aa oz. j  
 Ferri sulphatis, dr. ss.  
 Tinct. sennæ, dr. iv  
 Aq. Ment'hæ sativæ, f. oz. x misce.

Give one ounce and a half at 6 A. M. so as to have it operate about twice actively per. day. This is sufficient in very chronic cases, where a slow cure only can be expected; but in more active cases, the same quantity should be again repeated at 11 A. M., so as to get four or more evacuations daily. This mixture should be continued about ten days, and then, alternated for four or five days with eight grs. comp. ext. colocynth, with two grs. gamboge, in pills at bed time, and in the A. M. at seven, twenty drops tinct. ferri. muriat. in a wine-glass of water, with dr. i tinct. gentian comp. This last dose should be repeated again at eleven. In this way the medicines should be alternated until the cure is complete.

## CHAPTER IV.

*Pneumonitic miasmal fever, or miasmal fever complicated with inflammation of the chest.*

## SYMPTOMS.

No part of the year is exempt from a liability to this disease becoming complicated with pneumonic inflammation; but our spring months, and latter part of autumn, and fore part of winter, seem the most liable to it. It is not always easy to decide exactly upon the precise seat of the thoracic phlogosis, after settling in our own minds that it actually exists. It may be in the pleura, larynx, trachea, bronchia, or parenchyma of the lungs; or, more than one of those organs may be simultaneously affected; but owing to the obscurity of the symptoms in consecutive inflammations generally, and especially, if the sensibility of the whole system is subdued by a typhoid grade of fever, it will not be safe to attempt to make out a very accurate diagnosis. It is of more importance generally, in a practical point of view, to distinguish a bronchitis, than either of the others, and fortunately it is most easy to do so. This is usually preceded by the nose and frontal sinuses, being a little affected, as by a cold, a sense of tightness about the chest, and the cough increasing the pain in the head.—There is a sense of tightness about the chest, with some cough, a little expectoration of starch-like mucous, lips purple, instead of being red, as in other pectoral affections; countenance pale, except now and then a transient circumscribed flush on either of the cheeks. Bronchitis is frequently brought on, late in these fevers, by not increasing the bed-clothes and temperature of the room, on the fever having passed its acme; and

not adopting the proper precautions on the coming on of a cold rain-storm, &c.

On the least pneumonic symptom showing itself, it should lead us to a careful investigation, and a full estimate of all the appearances, being careful to attach due importance to the slightest indications of thoracic phlogosis. Even a circumscribed red or purple spot on either cheek, or about the chest, should lead to suspicion, that all is not right, for some of our most celebrated physicians assert, that these appearances invariably denote some pneumonic derangement. A further enumeration of the symptoms is useless. It is only necessary to recollect all the signs that denote any idiopathic pectoral derangement, and make a due allowance for their modification, on account of the local disease being consecutive, and more especially if the *grade* of fever be *typhoid*.

#### TREATMENT.

The slight catarrh or bronchitic symptoms accompanying the intermittents, do not usually demand much attention; though it is well to investigate their extent, and watch carefully their progress. Intermittents may be intercepted with quinine, in these mild cases, and the catarrh may receive some attention at the same time, or afterwards, if it continue.

But where the least catarrhal or bronchitic symptoms occur, in a fever of greater violence, or a lower grade, or where they denote a deeper seated affection of any of the organs of the thorax, even in an intermittent, they should receive prompt and indefatigable attention.

Bleeding, if not *decidedly* contra-indicated; cupping, blistering, or other counter-irritation, &c., must all be had recourse to. Opium, calomel and ipecac. one gr. each, every four or six hours, or oftener, according to the urgency of the case, so as to allay the present irritation, and produce ptyalism; antimonials, mucilaginous drinks, and diaphoretics must be

used in their proper place. Care should be taken to keep the apartment of the right temperature, and if bronchitis exist some proper inhalations will be of service.

If the bronchial tubes become obstructed, an emetic of ipecac, boneset, or lobelia, should be used, though apparently in the last stages of the fever.

If the patient be very much prostrated, he can be supported during the operation, with warm stimulating drinks. The signal benefits derived from the use of emetics in the last stages of fever, especially of the *typhoid grade*, where bronchitis has been present, has induced many to recommend them, with but little or no discrimination, and especially without seeming to notice whether any pneumonic affection demanded them or not, when, in truth, they can seldom be admissible under any other circumstances. These last observations apply exclusively to the treatment of the local disease, and you must refer to the observations on the treatment under the proper grade of fever, in this as in all other local diseases, which are here treated of for general directions.

## CHAPTER V.

*Cephalitic Miasmal fever, or miasmal fever complicated with inflammation of the brain and its meninges.*

## REMARKS.

An attempt will not be made here to point out the distinctive symptoms which indicate the precise seat of the inflammation. It is frequently as much as is practicable, to say in which of the three principal cavities, the local difficulty is situated, viz: whether in the abdomen, thorax, or cranium, without attempting to designate the precise tissue, as the seat of a consecutive inflammation.

It will not be necessary to point out the symptoms which denote the presence of an idiopathic cerebral inflammation, nor of an acute inflammation of the head, which occurs nearly simultaneously with the accession of the fever. These cases are sufficiently obvious to a common observer. It is the consecutive inflammation insiduously stealing on, in the advanced stages of the disease, when usually the sensibilities of the system are torpid, from a typhoid grade of fever, that it is so difficult, and yet so important, to detect. Persons engaged in directing and managing an extensive business, intellectual persons, and such as live by an exertion of their mental powers, are more prone to affections of the brain in *miasmal fever*, than the common laboring classes, who lead comparatively, an animal existence. Precocious youth, and children, are also more than liable others to this complication of disease.



## SYMPTOMS.

The first symptoms generally noticed in the approach of consecutive phrenitis, are, an increased heat about the head, throbbing of the carotid and temporal arteries, pulse small and quick, fugitive pains in the muscles and joints, torpid bowels, and an uneasy sensation at the precordia.

At first the patient may be troubled with *coma vigil*, but soon the coma becomes more profound, and by turns he falls into a deep unquiet sleep, from which it is difficult to arouse him perfectly; and when he is aroused, he is lost or frightened, cross and peevish, and perhaps falls out with his old friends, and adopts new ones. He reposes with his eyes rolled up under the upper eye-lids, and sometimes a little open. The uneasiness and pain in the head increases; if you direct the patient to shake his head, he is loth to do so, and it increases the suffering. He sighs often, breathes hurriedly, loathes food, sickens at the stomach on a sudden change of posture, tosses his arms about, and occasionally presses one hand on the head, knits his brows suddenly, grinds his teeth, and if a child, bites the cup or spoon. His temper is irritable, countenance changes suddenly from flushing to paleness, and looks heavy and exhausted. The eyes are more sensitive to light; sometimes but one, but generally both the pupils a little contracted, hearing more acute, but sometimes more obtuse.—There is a little unsteadiness or trembling of the hands, and if you take hold of them when he is sleeping, or is not noticing you will find them rather firmly shut and a little unyielding in the joints of the hand and elbows. These appearances are sometimes confined to one hand only.

The above symptoms often make their approach by the most imperceptible degrees, occupying sometimes several days, and keep on increasing if not arrested, until cerebral inflammation, or oppression is too obvious to be mistaken.—

Some physicians refer all, or nearly all the symptoms denoting consecutive cerebral inflammations to sympathy, than which, no error can evince greater ignorance oftentimes, of the true pathology of the case. If symptoms of bronchitis comes on or any other pulmonary affection, after a fever's running several days, no physician thinks of referring it to sympathy, and the same may be said of enteritis; or if symptoms of enteritis supervene upon inflammation of the lungs, or *vice versa*, nothing is said about sympathy; or if symptoms of the latter affections supervene upon an original phrenitis, it commands the immediate attention of all. But if symptoms denoting an approaching affection of the brain, shew themselves, when any other disease is present, many physicians stupidly refuse to prescribe, with reference to a threatened or incipient sub-acute phrenitis, but blindly attribute the new symptoms to sympathy. Such opinions are really too preposterous to require a serious refutation.

#### TREATMENT.

Bleeding should be had recourse to if possible; and here some general directions with regard to blood-letting in consecutive inflammations, will be given. If the inflammation comes on, and is detected before the fever has passed its acme, the same freedom with the lancet should be used, as in idiopathic inflammations; that is, bleed from a large orifice, and copiously, so as to produce syncope once, twice, and perhaps thrice, in quick succession. In this way a more enduring impression can be made on the system, with a much less expenditure of blood, than from a small orifice and at longer intervals. If the fever has passed its acme, it becomes a much more delicate question, to decide upon the propriety of blood-letting, and the extent to which it should be carried. If the strength of the patient does not seem too much exhausted, and if you apprehend considerable violence of the local dis-

ease, (after making due allowance for the slightness of the symptoms in such cases) you had better by all means, let blood, but in a very different manner from the mode of doing so in other cases. The orifice should be less, and frequent small bleedings must be taken; their effects closely watched, and the *vis vitæ* of the system supported, if necessary, by warm wine and water, or green tea and other cordial stimulants, aided by stimulating frictions, sinapisms, &c., to increase the centrifugal tendency of the circulation, and call off the blood as it were, from the part affected. It is sometimes almost impossible to open the bowels freely, and keep them so without blood-letting, when the brain is diseased. But if the disease has run too long, and the patient's strength has become exhausted, and if on listening, the heart's action is weak with the pulse, bleeding would do an irreparable injury. But when bleeding is necessary, and is not used, you will lose all of the most happy effects that would otherwise follow from the use of cathartics, calomel to affect the constitution, anodynes, diaphoretics, fomentations, cupping and blistering. Cupping or leeching should generally follow venesection, for a short time, before resorting to blisters, which should always be followed by fomentations, if the disease is where they can be conveniently applied.

In diseases of the brain, great pains must be taken to keep the bowels freely open; purging next to blood-letting is the most powerful means for overcoming this disease, and must be carried to the extent of five or six free evacuations daily. If much apprehension exists of bringing on inflammation of the mucous membrane of the bowels, such articles as will operate freely, and with the least irritation, must be used, as a few grs. of calomel followed by oil and magnesia, or magesia and rhubarb. The bowels must be kept freely open, not only during the whole of the disease, including the stage of de-

cline, but also during the convalescence. Be careful to keep up a warmth and a free circulation in the extremities; sinapisms to the feet and knees, blisters to the legs and inside of the thighs, to the back of the neck and arms, &c., will be of service. The head should be kept elevated, and very cool, with ice or evaporating lotions. Care should be taken in using ice, etc. not to get the pillows and bed-clothes wet, by the dripping of the water. The pillows and clothes should be often changed and dried. Without this precaution, you are likely to bring on a bronchitis, which must greatly enhance the patient's danger. Time out of mind, a complication of bronchitis with cerebral inflammation, has been looked upon as almost necessarily fatal. The room should be free from light and noise, and all general conversation forbidden. The patient should be with but one person at a time, and that should be one whom he likes, and who can influence him to be quiet, and keep his mind from dwelling too much on his business or other exciting topics. He should not be disturbed from a calm sleep for any thing whatever. But great care should be taken to distinguish betwixt a calm quiet sleep, out of which the patient will arouse easily, and feel refreshed, and one which is too deep, disturbed, or profound, and out of which it is difficult to arouse him, and from which, he awakens exhausted and lost. For from the latter kind of sleep he should *always* be aroused; few things are of more injury, than to suffer the patient to continue long in such a sleep.—Antimonials, and nitre, if not contra-indicated, and diaphoretics may be used, but opium is prohibited, except after very free depletion and evacuations, the bowels being perfectly open, a little Dover's powders may be used to advantage.—Calomel in small doses, or the blue pill, may be used, so as to produce a slight effect, but not full ptyalism. Some think that digitalis in substance, in decisive doses, can be used to

advantage, say 1-2 gr. of the powdered leaves, every two hours, till the patient is brought fully under its influence.

One writer in the Medico-surgical review-says, that green tea used after proper evacuations, has a powerful influence in subduing cerebral irritation.

## CHAPTER VI.

*Miasmatal fever, complicated with inflammation of the Spinal marrow and its membranes, ganglia, and nerves.*

## SYMPTOMS.

These organs are extremely liable to become implicated in *miasmatal fevers*. Great pain and uneasiness in the back of the neck, increased by pressure, with shooting pain and soreness of the upper extremities, indicates inflammation in the cervical portion; or pain in the loins, with great uneasiness and soreness of the lower extremities, and flinching from tenderness, on pressing that portion of the spinal cord, indicates an inflammation of the medulla spinalis in the lumbar portion.

Sometimes great soreness is felt on pressure, throughout the whole length of the spine in these fevers, and if this be accompanied with great soreness and pain in the extremities, especially in the course of the nerves, you will suspect that the spinal marrow is extensively implicated. These pains are to be distinguished from rheumatism, from there being little or no swelling of the joints. The patient is apt to complain of an uncomfortable and uneasy feeling about the diaphragm and stomach; he occasionally gapes, and his breathing is variable and uneasy. We occasionally notice other symptoms, especially in females, which simulate hysteria, and which are apt to encourage the physician and friends; but without any good reason, as experience proves. The above symptoms accompany either the intermittent, remittent,



or continued forms of *miasmal fever of the synochus and typhoid varieties*, and claim a due share of the physician's notice.

#### TREATMENT.

The treatment should be bleeding, if admissable, cupping, leeching, blisters, sinapisms, fomentations, &c., over the whole length of the spine, or co-extensive with the inflammation; rubbing the limbs along the course of the principal nerves with the hand, accompanied with as firm a pressure as the patient can bear, and anodynes to procure rest. This in addition to what is recommended under the *grade* of fever which accompanies it, is sufficient to give a correct idea of the necessary treatment.

In the intermittent form and *synochus grade* of fever, we have a great variety of what some have called *anomalous*, and others *masked* intermittents. Little doubt can exist of their miasmatic origin, as they are confined to the same districts of country usually, with the ague. They alternate with it, and are generally cured by a slight modification of the treatment recommended in intermittents. They consist of every variety of neuralgia, tooth-ache, ear-ache, amaurosis, nervous headache, spasmodic cough, and mania. These affections generally shew themselves in quotidian paroxysms, and last about the same length of time, that a fit of the fever and ague does, leaving the patient pretty clear from suffering during the intermission. The exacerbations are likely to be more irregular than the ague.

Quinine and arsenic are of as much importance in these as in the true intermittent. But, as in other cases of intermittents, it is necessary that the intermissions be perfect, and care must be taken to investigate the seat and extent of any lesion, as spinal, cerebral, ganglionic, or gastric, that may

exist, and remove it, or, subdue it in a great measure, before giving the quinine or arsenic. Some have attempted to intercept the paroxysms of miasmatic neuralgia, with brandy, opium and camphor, hot bath, sweats, &c., and though these are sometimes successful, yet, they generally do nothing more than defer it for a few hours, and at most but a few days.—

If the *neuralgia* be connected with much inflammation of the superior portion of the spinal marrow, particular caution should be taken to subdue it, before giving tonics or stimulants, as one case has been witnessed in Ann Arbor, where by a neglect of this precaution, the inflammation extended to the brain, and proved fatal. It is seldom advisable after deciding on giving the quinine, or arsenic, to carry it farther than you would in the ague, and if that quantity does not remove it, you should turn your attention to investigate more particularly the seat of the local irritation, that keeps it up, and direct your remedies accordingly.

#### CONGESTIVE MIASMAL FEVER, OR CHILL FEVER.

To carry out the plan as commenced, it is necessary to add one more species of *miasmatic fever*, which, it is conceived, will complete a pretty full account of all the different forms under which this fever has occurred, since the settlement of this county. This disease used to prevail more or less every autumn, from the year 1826, up to about four or five years ago; since which period, but little has been heard of it.

#### SYMPTOMS.

It was a quotidian intermittent, and commenced like any other ague of that variety, with this slight difference at first, which never attracted the attention of the patient, or his friends

viz: The chill would commence as usual, and with it *coma*. The hot stage was not well developed, the extremities remained below the natural temperature, and about the body, the heat was a little increased; the countenance was pale, lips &c., livid, coma continued, pulse weak. The sweating stage was imperfectly defined, as there was more or less of sweating from the commencement, but after a more profuse sweating, during which the coma continued, the patient would get up and go about his business; the whole exacerbation having occupied about the same length of time, that quotidians do in general. During the sweating, and for some time after, the skin on the hands looked as if it had been sometime immersed in water, or as if it had been par-boiled, it was so corrugated and bleached.

The patient remained very comfortable during the intermissions, and the next day, about two hours later than the day previous, another paroxysm would come on, with less apparent violence, than many of the most harmless cases of ague, but the want of reaction, or a full developement of the hot stage, remained the same, coma more profound, and continues some hours longer than the day previous. But the coma gradually subsides, and at length the patient gets up again, and goes about as before, until the accession of the next fit, when the coma is more profound and still more protracted than the other. In this way it goes on until about the sixth paroxysm, the patient remains comatose through the whole intermission. When the disease arrives at this stage, the next exacerbation is the last, for the patient never arouses from the profound stupor into which this throws him, and he dies in twelve or twenty-four hours. The patient, or his friends seldom became alarmed, until the lethargy was so protracted that it forced itself upon their attention; they, all the while, supposing he had only the ague, and was inclined to sleep a little too much. In this way, the case in many instances was suffered to run on, up to the last paroxysm, or

last but one, before calling medical aid, when, according to the mode of treatment then adopted, it was too late to save the patient,

During the years in which this species of fever continued, a number died every autumn, the majority of whom, were past the middle age of life.

#### TREATMENT.

If the case was seen by the physician, whilst yet the intermission between the coma and the next cold stage was sufficiently long to administer the requisite quantity of quinine and have it take effect, it never failed to check it. If seen thus early, it was just as tractable as any other variety of ague. It frequently happened, that the patient was not seen till six or eight hours previous to the exacerbation, which it was but too evident would place him beyond recovery. To intercept the anticipated paroxysm, becomes now the engrossing object. It is evident, if we had as much again time as we have, none of it must be lost, in giving cathartics or emetics, to prepare the patient for the exhibition of quinine. After estimating the time we have left us, we commence, by giving such quantities of quinine every half hour, or hour, as will use up twenty or thirty grs. before the next fit. This we generally combined with large doses of calomel and capsicum; brandy, sinapisms, stimulating frictions over the whole surface, external warmth, or a hot bath, were used as the time drew near for the next exacerbation. Opium should always be avoided, as counteracting the effects of quinine. This practice generally proved successful, even though the time was very short.

Where the physician was called in earlier, the disease yielded without any extraordinary measures, so that they were prompt and efficient; and in this way many have recovered, without appreciating their danger, and thinking lightly of the physician's solicitude.

## A FEW GENERAL OBSERVATIONS.

It is sometimes difficult to decide in the incipient stages of a consecutive inflammation, precisely, which organ, or tissue is affected, or which is likely to become the seat of the disease, but it is not difficult for a practitioner of much medical acumen, who is on the alert, to refer the disease to its proper region, viz: the abdomen, thorax, or cranium, in the forming stages of the complaint.

Thus, if after the fever is fairly formed, there still exists much irritability of the stomach, or great anxiety for cold drinks, tongue red about the edges, or elevated papillæ, or a gurgling noise in the abdomen, after drinking, or a little more fullness in this region than natural, or frequent watery stools, we must at once direct our attention to this region; and before the local disease is much advanced, a slight deviation from our regular course in the original fever is all that is necessary. The antimonials and nitre must be withheld, and the drinks should all be mucilaginous, the bowels kept open with oil and magnesia, frequent and anormal evacuations restrained; external fomentations, large mild enemata, etc., will be sufficient to stop its progress.

If ever so slight catarrhal symptoms appear, they should receive immediate attention. Does the patient breathe as if there was too much mucous in the bronchiæ? Is the cheek a little flushed? Has he a slight cough? Does he hawk up and spit more than natural? Are the lips livid, and does he repose with his mouth a little open, and are the *alæ nasi* contracted, &c.? On the first appearance of these symptoms, a light emetic, followed by antimonials and Dover's powder,



cupping, blisters, and keeping the temperature of the room uniform, and a little elevated, added to the general treatment, will check its further advance.

Does the pain in or over the orbits of the eyes increase, with a little more sensibility to light and sound? Do the carotid and temporal arteries beat with increased violence? Is he watchful, &c.? The room should be kept dark and still, the head elevated, and evaporating lotions applied; the bowels moved more briskly with cremor tartar, and jalap, and a blister applied to the neck. This will be found sufficient in an incipient, or threatened case of cerebral inflammation, in addition to the treatment required in that particular grade of fever.

But these slight indications of local phlogosis, are too often suffered to pass unnoticed at first, or without receiving that attention, which their importance demands, until the part is deeply involved. This cannot continue long, (no adequate means being used for its removal) without involving other organs; every part of the system being more liable to become implicated in a fever, especially if it be of a low grade. Hence we often see the contents of more than one of the principal cavities, inflamed at the same time. This adds greatly to the danger, and requires diligence on the part of the physician, and such a nice modification of the treatment heretofore laid down, as his good sense must suggest. But we are occasionally called to witness cases still more deplorable, viz: where the visceral inflammation has been suffered to take still deeper root, and spread wider, till the contents of the abdomen, thorax and head are all three involved. Very few recover from this complication of disease. Here the task of the physician becomes a painful one. He can do little more than stand by a silent observer, for the brief period usually allotted to such unfortunate patients. Still you should not



abandon the case in despair, but do what you can in the quietest way possible for his comfort, and support the waning life of the body, by such means as are in your power, and for the rest, trust to the mysterious, but sometimes successful operations of nature.

FINIS.





